Remarks/Arguments:

By this Preliminary Amendment, applicants have amended claims 15 and 16. Accordingly, claims 15, 16, 24, 26-32, 35, 40, 41, 54 and 58-68 are pending in the application.

Claim Rejections - 35 U.S.C. §112

In the Office action of November 5, 2003, the Examiner rejected claims 15, 16, 24, 26-32, 35, 54 and 58-68 under 35 U.S.C. §112, first paragraph, on grounds that the specification, while enabling for Colostrinin usage as a modest cytokine inducer in human leukocytes does not reasonably provide enablement for treatment of dementia or Alzheimer's Disease. The Examiner contends that the specification does not enable any person skilled in the art to make and/or use the invention commensurate in scope with the claims. Applicants respectfully disagree.

The specification clearly identifies what the term "Colostrinin" refers to (e.g., page 4, line 13 to page 5, line 11) and from what sources Colostrinin may be derived (e.g., page 4, lines 8-12). Furthermore, the specification provides a stepwise explanation of how Colostrinin may be isolated from mammalian colostrum (e.g., page 5, line 12 to page 6, line 16). And, in what form it can be administered to human patients (e.g., page 6, line 30 to page 7, line 13).

The specification discloses that Colostrinin can be administered to human patients to treat dementia (e.g., page 2, line 15) and Alzheimer's Disease (e.g., page 2, line 20), and that it can be used as a dietary supplement (e.g., page 3, line 23 to page 4, line 4). In addition, the specification identifies the preferred and most preferred

therapeutic unit or dosage to be administered to human patients (e.g., page 6, lines 27-29), as well as the preferred administration regimen or method of treating human patient's with Colostrinin (e.g., page 6, lines 18-26). In addition to disclosing the preferred treatment regimen and therapeutic unit or dosage, the specification discloses the various forms in which the Colostrinin can be administered to a human patient (e.g., page 6, line 30 to page 7, line 13).

Example I (page 10, line 20 to page 12, line 9) shows how to obtain Colostrinin from the colostrum of sheep taken after parturition up to 24 hours after commencement of lactation. Example III (page 12, line 23 to page 13, line 16) shows how to prepare a tablet for sucking comprising Colostrinin for use in treating human patients afflicted with the early and late stages of dementia and Alzheimer's Disease. Example VII (page 15, line 6 to page 18, line 3) shows that administration of Colostrinin in tablet form as taught in Example III to persons afflicted with Alzheimer's Disease (and healthy patients), in cyclic treatment, stimulates the beneficial production of certain cytokines, particularly interferon gamma (IFN-γ) and tumor necrosis factor alpha (TNF-α), which patients with Alzheimer's Disease exhibit a diminished capacity for production of. IFN-γ is a potent immunomodulator that is critical for the development of the cytotoxic lymphocyte response (CTL). This immune response is considered to be very important in protecting humans and animals from variety of bacterial, viral and parasitic infections. The fact that TNF-α is also induced by Colostrinin is important because TNF-α is a major activator of macrophages, among other immune cells, which are important in host defense against infections. Also it is important to mention that the induction of these

two cytokines was correlated with the increase in the proliferation of peripheral blood lymphocytes.

Example IX (page 19, line 40 to page 21, line 4) shows that administration of Colostrinin in tablet form as taught in Example III, in addition to inducing the beneficial production of cytokines in human patients afflicted with Alzheimer's Disease, also produces an improvement of contact and an uplift in mood in such patients. The phrase "improvement of contact" means that the general awareness of the human patient and the human patient's response to external stimuli was increased. This may be objectively manifested as an improvement in participation of the human patient in daily activities by active, and not dormant, behavior. An "uplift in mood" means that improvements are observed in the human patient's general level of happiness and contentment.

The specification also discloses that instead of Colostrinin, a variety of disorders, especially Alzheimer's Disease, can be treated through the administration of an isolated nonapeptide ("NP") obtained from Colostrinin or by means of chemical synthesis that has the following composition and amino acid sequence: Val-Glu-Ser-Tyr-Val-Pro-Leu-Phe-Pro (page 10, lines 5-15). Examples II and X show the isolation of NP and the use of NP in the treatment of Alzheimer's Disease, respectively. Administration of NP to patients afflicted with the early stages of Alzheimer's Disease induced a state of hyporeactivity or tolerance, which resulted in an improvement of contact and an uplift of mood in such patients (page 21, lines 7-22).

In view of the foregoing, applicants respectfully submit that the specification is fully enabling for claims of the scope presently presented for consideration. The specification clearly describes what Colostrinin is, how and where it can be obtained, how much should be administered to a human patient as a dietary supplement or to treat dementia and/or Alzheimer's Disease, in what forms the Colostrinin can be administered, a preferred regimen by which it can be administered, and the likely results to be derived from its administration. Applicants respectfully submit that one of ordinary skill in the art could easily practice the invention as claimed based upon the teachings and disclosures set forth in the present specification. Reconsideration of the rejection of claims 15, 16, 24, 26-32, 35, 54 and 58-68 under 35 U.S.C. §112, first paragraph, is respectfully requested.

Claim Rejections - 35 U.S.C. §102

In the Office action of November 5, 2003, claims 40, 41, and 54 were rejected under 35 U.S.C. §102(b) as being anticipated by Burrin (Pediatric Research, vol. 37, pp. 593-599, 1995). The Examiner contends that Burrin teaches that:

> "nutrient-independent and nutrient-dependent factors stimulate protein synthesis in colostrum-fed newborn pigs, see title. Burrin discloses neonatal pigs fed mature milk, colostrum, or a formula containing a macronutrient composition comparable to that of colostrum for 24 hours, see abstract. The rates of protein synthesis in several tissues measured after 24 hours of feeding were greater than those reported previously after 6 hours of feeding, see abstract. The acute stimulation of protein synthesis in visceral and skeletal muscle tissues of neonatal pigs fed milk, colostrum, or formula was primarily influenced by nutrient intake and associated with rapid secretion of insulin, see abstract."

The Examiner does not explain how or why it is believed that the foregoing teachings of Burrin anticipate claims 40, 41 and 54, which claim, respectively:

> "A dietary supplement for humans comprising a therapeutic unit of Colostrinin in isolated form."
>
> "A dietary supplement for humans comprising an orally ingestible combination of a therapeutic unit of Colostrinin in an isolated form in combination with a physiologically acceptable carrier."
>
> "A pharmaceutical composition for oral administration to a human patient comprising a nonapeptide having the amino acid sequence Val-Glu-Ser-Tyr-Val-Pro-Leu-Phe-Pro (SEQ ID NO:1) in isolated form in combination with a physiologically acceptable carrier."

At best, Burrin teaches that the administration of colostrum or a formula containing a macronutrient composition comparable to that of colostrum to pigs stimulates skeletal muscle and jejunal protein synthesis. However, Burrin does not teach a dietary supplement for humans comprising a therapeutic unit of Colostrinin in an isolated form, an orally ingestible combination of a therapeutic unit of Colostrinin in an isolated form in combination with a physiologically acceptable carrier, nor a pharmaceutical composition for oral administration to a human patient comprising a nonapeptide having the amino acid sequence Val-Glu-Ser-Tyr-Val-Pro-Leu-Phe-Pro (SEQ ID NO:1) in isolated form in combination with a physiologically acceptable carrier as claimed by applicants. Accordingly, the rejection of claims 40, 41 and 54 under 35 U.S.C. §102(b) is clearly improper. Reconsideration of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. §103

In the Office action of November 5, 2003, claims 40, 41 and 54 were rejected under 35 U.S.C. §103(a) as being unpatentable over Burrin. The Examiner contends that it would have been prima facie obvious to use the teachings of Burrin to arrive at the instant invention because Burrin discloses a novel, specific stimulation of skeletal muscle and jejunal protein synthesis in colostrum-fed pigs.

It is well settled that "[w]hen patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness." *In Re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). It is also well settled that the suggestion, teaching, or motivation to combine the prior art references is an essential component of an obviousness holding, and it must be found in the reference teachings themselves. See, e.g., *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

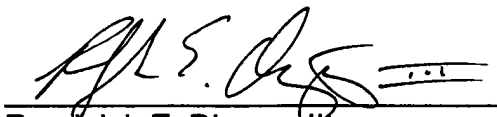
The Examiner did not identify any teachings or suggestions set forth in Burrin that would motivate one of skill in the art to arrive at the dietary supplement and pharmaceutical compositions for administration to humans as claimed by applicants. Accordingly, the rejection of claims 40, 41 and 54 under 35 U.S.C. §103(a) is improper. Reconsideration is respectfully requested.

Conclusion

In view of the foregoing, applicants respectfully submit that claims 15, 16, 24, 26-32, 35, 40, 41, 54 and 58-68 are presently in condition for allowance, and a timely Notice to that effect is earnestly solicited.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK, L.L.P.



Randolph E. Digges, III
Reg. No. 40,590

925 Euclid Avenue
Suite 700
Cleveland, Ohio 44115-1405
(216) 566-9700